Drinking Water Supply in Pennsylvania

- Over 2,000 drinking water utilities
  - Vast majority are small, municipally owned systems
  - These utilities serve 82% of PA’s population
- Withdrawals (USGS, 2000 data)
  - Drinking water supply 11% of all withdrawals
  - 1.462 billion gals/day for drinking water supply
  - Per capita withdrawal down: 144 gpcd in 2000 vs. 171 gpcd in 1995

Delaware Regional Committee Water Resources Plan Template

- Task #4, bullet 3
  - A process for identifying projects and practices that are being or have been implemented by water users that reduce the amount of water withdrawal or consumptive use, improve efficiency in water, provide for reuse and recycling of water, increase the supply or storage of water or preserve or increase groundwater recharge and a recommended process for providing appropriate positive recognition of such projects or practices in actions, programs, policies, projects or management activities

Traditional Shortcomings in Water Accountability

- Terminology; Historically a Lack of standardized definitions of water and revenue losses
- Technical; Not all water supplied by a water utility reaches the customer
- Financial; Not all of the water that reaches the customer is properly measured or paid for
- Water rates frequently don’t cover the cost of service

Some Pennsylvania Successes

- State College Beneficial Water Reuse Project – University Area Joint Authority
  - Balances growth with environmental protection by conservation and enhanced wastewater treatment to supply recycled water for non-potable use and groundwater recharge
- Philadelphia Water Department – reduced non-revenue water by +50 MGD in 10 years
- AWWA – Water Audit Method and Software
  - Active DRBC/Delaware Basin participation


- Standardize water-use terms:
  Confusion over terms such as water use, consumption, withdrawal, new water, real water, conservation, productivity, efficiency, and so on can hinder policy analysis. Some efforts should be made to standardize terms related to water use and conservation
  - Pacific Institute, 2003
Ten Practices Covered in the AWWA States Survey Project

- Water loss policy
- Definition of water loss
- Accounting and reporting
- Standards and benchmarks
- Goals and targets
- Planning requirements
- Compilation and publication
- Technical assistance
- Performance incentives
- Auditing and enforcement

Water Balance: IWA/AWWA Method

States Survey Findings & Conclusion

"A better system of accounting is needed to instill better accountability in drinking water utilities."

AWWA Water Audit Software

- User-friendly EXCEL spreadsheet available for free download from
  - www.awwa.org/Water/WaterEfficiency/Tools/WaterAuditSoftware.cfm
  - A link also exists from the DRBC website - www.state.nj.us/drbc/
- Developed with great assistance from DRBC
  - David Sayers - programming expertise
  - Water Management Advisory Committee working within Comprehensive Plan
- PA Water Utilities served as beta testers
  - Perkasie Borough Authority
  - North Wales Water Authority
  - AQUA PA

Pitfalls of the “Unaccounted-for Water Percentage”

- Worldwide, no standard definition has been found to exist for the term “unaccounted-for” water
- Percentage indicators have been found to be suspect in measuring technical performance
- Percentage indicators translate nothing about water volumes and costs
The Software’s Potential

- Promote standard assessment of water loss standing: definitions and performance indicators
- Establish a reliable means to collect data
- State of Texas Legislation: collecting 2005 water audit data in IWA/AWWA format – first state to do so
- PA DEP 2005 Annual Primary Facility Report – includes IWA/WWA water balance
- DRBC WMAC – will draft a position statement on the potential of the new method to improve several existing DRBC resolutions on water accountability

Water Loss Control in Drinking Water Utilities

- Leakage Management – can reduce withdrawals
  - Improved leakage detection & measurement
  - Pressure management
- Apparent Loss control – recover revenue
- Full Cost Pricing
- Customer Education

Summary

- Pennsylvania played a lead role in a number of water efficiency successes
- PA’s drinking water industry has opportunity to make further efficiency improvements to benefit water resources and the economical sustainability of water utilities & communities
- The developing PA State Water Plan can consider the methods behind these improvements as important components of the new state water plan